

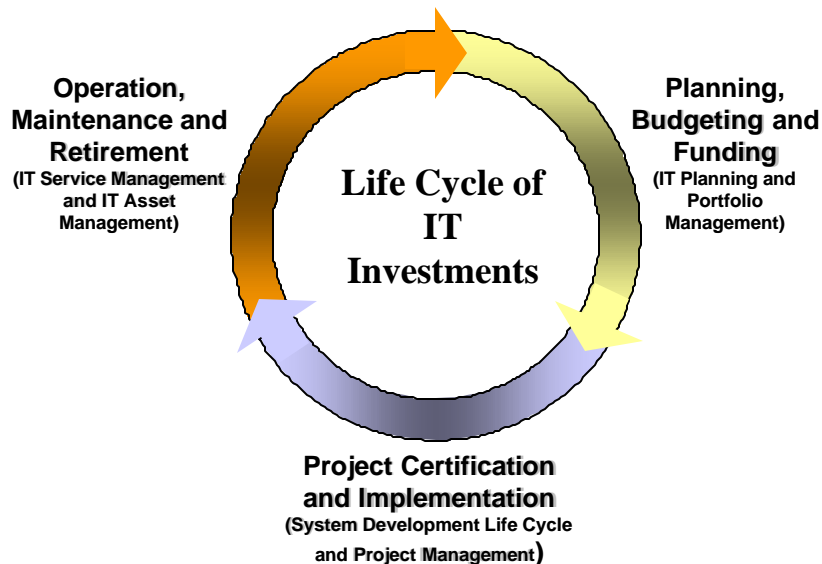


**North Carolina State Government
Information Resource Management Commission**

**Project Certification, Progress Reporting and Quality Assurance
Process**

**Implementation Framework for Statewide
Information Technology Projects**

Best Practices and Standards



Prepared by Staff of Enterprise Technology Strategies

Approved by the IRMC September 2002
Original Version – September 2002
Latest Revised Version – April 2004

North Carolina State Government
Information Resource Management Commission
Project Certification, Progress Reporting and Quality Assurance Process

**Implementation Framework for Statewide Information
Technology Projects - Best Practices and Standards**
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April 2004

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Executive Summary

Information technology (IT) is an inextricable part of how North Carolina state government functions. It supports efficient business processes and effective program operations; enables new and improved services for citizens; and contributes to educational opportunities, public safety and welfare, and economic development (including prosperity and quality of life of citizens). Over the years, state government has invested billions of dollars in its IT infrastructure of computer and telecommunications assets. In addition, approximately \$1 billion (out of the about \$26 billion annual budget) is spent annually for operating its systems, maintaining its hardware and software investments, and developing new applications.

The budget crisis is forcing state government to cut costs, and citizens are demanding greater accountability for program performance and more rigorous proof that funds are invested wisely and effectively. Therefore, IT investments must be identified, evaluated and selected so that those funded best meet agency missions, program goals, and business objectives by providing the best value and most benefits with the least risks and most economical costs over their life-cycles. Moreover, the state's IT implementation projects must be performed as effectively and efficiently as possible, so they are completed on time and within budget and deliver the expected results.

The primary purpose of this document is to itemize and describe the key factors that contribute to the success of statewide IT projects. These projects typically are highly visible, large-scale, significant-cost, and high-risk endeavors. They often are conducted in complex environments that include involved business processes, diverse technical infrastructures, a variety of public policies, intricate organizational cultures, and multifaceted political contexts. Because of their high profile nature, they require special scrutiny and concerted oversight.

In addition to serving as a guide for assisting project teams and agencies to plan, manage, and accomplish statewide IT projects successfully, this document provides a framework for approval and oversight bodies to develop and revise policies and procedures for approving these projects, monitoring their progress, determining their status, measuring their performance, taking appropriate action when required, and executing the associated quality assurance practices. Both the project management practices of agencies and the project review policies of oversight bodies must be reviewed continuously and updated as needed to ensure that they remain effective, are cost-sensitive, and continue to be appropriate, given the rapidly changing nature of technology and the increasingly challenging and ever-involving circumstances of state government.

The concepts, principles, and philosophies stated in this material have been synthesized from a wide variety of experiences and a broad diversity of sources. A key input has been lessons learned from the long-term work performed by the staff of Enterprise Technology Strategies (ETS) for the Information Resource Management Commission (IRMC) in support of the IRMC's Project Certification, Progress Reporting, and Quality Assurance processes and procedures. Another major area of contribution has been direct experiences from several major statewide projects recently completed or currently underway. Finally, many ideas and much information has been obtained from

extensive research by ETS staff, including the reading and analysis of numerous documents produced by leading IT research and advisory services, newspapers, technical and business journals, and magazines.

For clarity of understanding, the major success factors for statewide IT project management are segregated into two classifications. The 10 that must be addressed in all projects, require focused action, and cover the full spectrum of the implementation life cycle are called best practices. These are listed in the general order that they would be addressed in the planning for and management of an IT project, and they have equal priority.

The remaining 35 (called standards) are important, but may not be equally applicable to every project, and they supplement the 10 best practices. They must be considered in every project; however, the extent of action taken to accomplish them may vary on a project-by-project basis, depending on individual circumstances and situations. They are listed in the general order in which they normally appear in a typical project implementation plan, and they have equal priority for consideration.

The 10 best practices are listed as follows:

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| 1. Develop a sound business case | 6. Anticipate and manage risks |
| 2. Secure senior level leadership | 7. Establish quality objectives and standards |
| 3. Prepare thorough contracts and manage vendors well | 8. Develop technical standards |
| 4. Develop an appropriate project organization structure and build an effective project team | 9. Design and implement a robust change and configuration management program |
| 5. Develop a comprehensive management plan, and monitor, report, and manage performance | 10. Plan thoroughly for production/operations phase |

The 35 standards are listed as follows:

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|---|---|
| ● Evaluate investments carefully to ensure funds are invested wisely and benefits are compatible with risks | ● Before designing or buying software, identify opportunities for process reengineering |
| ● Exert sound and competent leadership | ● Identify and accommodate security and privacy needs |
| ● Provide for adequate and qualified staffing | ● Provide for disaster recovery and business continuity |
| ● Set clear and realistic objectives and success criteria | ● Select and use the right technology |

- Recognize the importance of users, interest groups, and stakeholders
- Pay close attention to cultural and political issues
- Manage scope changes and control scope creep
- Shun lengthy schedules and avoid trying to deliver too much all at once or taking too long to provide any benefits
- Manage expectations
- Request and obtain sufficient funding
- Perform detailed planning and develop realistic intentions regarding milestone schedules, dollar expenditures, and personnel commitments
- Develop reliable estimates and employ adequate contingencies
- Recognize realities and adjust plans and schedules to reflect actual events and circumstances and realistic timeframes
- Identify appropriate checkpoints and perform independent outside assessments of project status, management, and deliverables
- Prepare complete documentation for enabling project management and to support the design, operation, and implementation of the application
- Ensure the communications plan is complete in structure, inclusive in audience, and focused on important topics
- Provide sufficient amounts of high quality support tools
- Make sure business/program requirements and policies are identified, documented, and tracked
- Ensure the application's technical architecture is congruent with the agency's business/program architecture and fits within the statewide and agency's technical architectures
- Employ the enterprise approach by taking advantage of statewide common technical services and shared technical infrastructures
- Know and understand the inner workings and hidden mechanisms of technical operations
- Know the key infrastructure components that impact the implementation
- Make certain the technical infrastructure is adequate for supporting the application
- Develop sound and comprehensive test strategies and test systematically and exhaustively
- Develop a detailed and complete conversion plan
- Provide for sufficient and proper training and other implementation support services
- Restructure business/program models and reengineer processes
- Ensure code is satisfactory or applications are ready before release or rollout
- Utilize pilot or initial implementation sites, if appropriate and useful
- Provide superior customer service
- Conduct post-implementation assessments and develop lessons learned as a reference for future projects

The full documentation is two volumes (main document and appendices), and these can be obtained by contacting Tom Runkle at 919-981-5514 or tom.runkle@ncmail.net